

REMARKS/ARGUMENTS

Reconsideration of the application in view of the following remarks is respectfully requested.

Claims 1-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Youn et al. (U.S. Patent No. 6,459,604). Applicant respectfully traverses this rejection.

Applicant's invention, as set forth in claim 1, is directed to a power adapter comprising a first housing and a second housing remote from the first housing. An AC input receptacle is provided in the first housing and a voltage converting circuit is enclosed within the first housing and electrically connected to the AC input receptacle, the voltage converting circuit converting input AC power into a DC voltage. A voltage regulating circuit is electrically connectable to the voltage converting circuit and is enclosed within the second housing, the voltage regulating circuit maintaining and outputting the DC voltage from the voltage converting circuit.

In contrast, in Youn, the first housing essentially encloses a complete ac-dc adapter which includes ac-dc rectifier, isolated dc-dc converter, and control circuitry. The second housing encloses a complete non-isolated dc-dc adapter which converts the low dc voltage generated by the first housing to a desired low output voltage. In the present invention, only a few components contained in the front end stage of a typical ac-dc enclosed in the first housing. The second housing encloses the voltage regulating circuit which converts the high dc voltage generated by the first housing to a desired low output voltage.

By providing two housings and placing the AC connectors and the AC/DC converter in one housing and placing the voltage regulators in a second housing, Applicant provides a power adapter which has a relatively simple structure, a high efficiency and improved output performance. Moreover, because the first housing need only contain the voltage converting circuit, the power adapter has increased thermal performance and improved electromagnetic interference characteristics.

Thus as described in the specification (paragraph [0021]), with the separation of the voltage converting circuit from the voltage regulating circuit in the manner described above, the thermal performance of the power adapter may be increased. This is because the inrush resistor, the common mode choke and the rectifier circuit typically dissipate a total of about 3-4% of the output power, or about 30% of the total power dissipation of the power adapter, under worst case

thermal operating conditions (i.e., 90 V.sub.AC and full load). Therefore, the split-package design (i.e., two separate housings for the voltage converting circuit and the voltage regulating circuit) may reduce the heat produced in the second housing 18 by about 30%. Accordingly, the size of the second housing can be reduced by 30% also.

In contrast, Youn's arrangement does not improve the thermal conditions of the components because his front end includes both an ac-dc rectifier and a dc-dc converter.

Further, as described in paragraph [0022], the electromagnetic interference properties (EMI) of the power adapter are also improved with the present split-package design. Because the high frequency filter (EMI filter) and the main power stage components (i.e., the power transformer) are contained in separate housings, there is less coupling between these respective components.

In view of the foregoing it is respectfully submitted that claim 1 is clearly not rendered obvious by Youn et al.

Claims 2-9 are dependent either directly or indirectly from claim 1 and are therefore patentable for the same reasons as well as because of combinations of the features set forth in these claims with the features set forth in the claim(s) from which they depend.

In view of the foregoing this application is now believed to be in condition for allowance which action is respectfully requested.

Respectfully submitted,



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